



351



INVESTOR IN PEOPLE

Cambridge Display Technology Limited  
c/o Marks & Clerk  
66/68 Hills Road  
CAMBRIDGE  
Cambridgeshire  
CB2 1LA

The Patent Office  
Patents Directorate

Concept House  
Cardiff Road, Newport  
South Wales, NP10 8QQ

Examiner: 01633 814083  
E-Mail: [hazel.thayer@patent.gov.uk](mailto:hazel.thayer@patent.gov.uk)  
Switchboard: 01633 814000  
Fax: 01633 814444  
Minicom: 08459 222250  
DX: 722540/41 Cleppa Park 3  
<http://www.patent.gov.uk>

Your Reference:  
Application No: GB0401613.5

15 July 2004

Dear Sirs

DOCKET	
By:	A. Brown
Date:	5/8/4
Action/Remark:	original - does in
Action/Date:	

citation  
folder

Patents Act 1977:  
Combined Search and Examination Report under Sections 17 and 18(3)

Latest date for reply: **26 January 2006**

I enclose two copies of my search and examination report and two copies of the citations.

By the above date you should either file amendments to meet the objections in the report or make observations on them. If you do not, the application may be refused.

#### Other search results

If you have applied to another patent office for a patent for this invention you will be receiving from them the results of their search. If you decide to proceed with the present application you are asked to provide me with a copy of any such official search report; or to email identifying details of the cited documents (including any category assigned in the report) to the email address above.

**Cut-off date** This request applies to search reports that you have received before the date when you send a response to our first examination report under section 18(3) or section 18(4); if you make no response to an initial section 18(4) report the cut-off date is two months after the date of that report. Tell us about a search report sooner rather than later if that would allow it to be considered during our first examination.

Use of E-mail: Please note that e-mail should be used for correspondence only.

An Executive Agency of the Department of Trade and Industry

**BEST AVAILABLE COPY**



INVESTOR IN PEOPLE

Application No : GB0401613.5

Page 2

15 July 2004

**Exceptions** You do not have to supply details of a search report that (1) shows a nil response, or (2) has been published by WIPO or EPO, or (3) you have already supplied to us on a previous GB application.

### **Publication**

I estimate that, provided you have met all the formal requirements, preparations for publication of your application will be completed soon after **21 June 2005**. At this time you will receive a letter confirming the exact date when the preparations for publication will be completed. This letter will also tell you the publication number and date of publication of your application.

### **Withdrawal/amendment**

If you wish to withdraw your application before it is published you must do so before the preparations for publication are complete. **WARNING** – after preparations for publication are complete it will NOT be possible to withdraw your application from publication.

If you wish to file amended claims for inclusion with the published application you must do so before the preparations for publication are completed. If you write to the Office less than 3 weeks before 21 June 2005 please mark your letter prominently:

**"URGENT - PUBLICATION IMMINENT".**

Yours faithfully

*Hazel Thayer*

Dr Hazel Thayer  
Examiner

### **Important information about combined search and examination**

I also ask that you take note of the following points. These might have a bearing on the future stages of your application because the examination report has been sent to you before your application has been published.

- (a) You may file voluntary amendments before making a full response to my examination report. We will publish with your application any new or amended claims you file voluntarily or as a full response, provided that they are received before preparations for publication are completed. It would help us when you file amendments before publication if you could prominently indicate in a covering letter whether or not the amendments are intended as a full response to the examination report.
- (b) If you file a full response to the examination report before your application is published I will consider it as soon as possible. However, if this would disrupt the publication of your application, I would have to delay



INVESTOR IN PEOPLE

Application No : GB0401613.5

Page 3

15 July 2004

taking any action until the application had been published. This delay could be up to 3 months, depending upon when we receive your response.

- (c) There is another situation when there might be a delay between you filing a full response and the Patent Office responding to it. This would arise if you met all my objections but your application had not or had only recently been published. I could not report the outcome of my re-examination until I was satisfied that the search was complete for documents published before the priority date of your invention and that anybody interested in the application has had three months following publication of the application to make observations on the patentability of your invention.
- (d) Provided that the requirements of the Act have been met, I can send your application to grant as early as three months after publication. Before doing so I will bring the original search up to date and raise with you any further objection that might result from this top-up search. However, there is a possibility that at that time I may not have access to all the patent applications published after the priority date of your invention and of possible relevance to your application. If this is the case I would have to complete the search after grant and if necessary raise any new found novelty objection then.



Application No: GB0401613.5

Examiner: Dr Hazel Thayer

Claims searched: 1-12

Date of search: 14 July 2004

## Patents Act 1977: Search Report under Section 17

### Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular reference
X	1, 6, 12	EP 0278757 A2 (EASTMAN), see abstract, page 4 lines 40-41 and page 14 lines 52-53
X	1, 6, 12	Thin Solid Films vol. 410, May 2002 (Switzerland), Liang-Sun Hung and J. Madathil, "Radiation damage and transmission enhancement in surface-emitting organic light-emitting diodes. See abstract, paragraph 3 of section 3.2 and lines 8-12 of section 4.
A	-	EP 0372763 A2 (NATIONAL)
A	-	EP1076368 A2 (EASTMAN)
A	-	US 6411019 B1 (HOFSTRA)

### Categories:

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

### Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC<sup>W</sup> :

Worldwide search of patent documents classified in the following areas of the IPC<sup>07</sup>

H01L

The following online and other databases have been used in the preparation of this search report

WPI, EPODOC, JAPIO, TXTUS0, TXTUS1, TXTUS2, TXTUS3, TXTWO1, TXTEP1, TXTGB1, XPIIE, XPIEE, XPESP, INSPEC, TDB



INVESTOR IN PEOPLE

Your ref :  
Application No: GB0401613.5  
Applicant : Cambridge Display Technology Limited  
Latest date for reply: 26 January 2006

Examiner : Dr Hazel Thayer  
Tel : 01633 814083  
Date of report : 15 July 2004  
Page 1/2

## **Patents Act 1977 Combined Search and Examination Report under Sections 17 & 18(3)**

### **Plurality of invention (section 14(5)(d))**

1. Your claims define two separate inventions not forming a single inventive concept. The inventions are:

- a) an OLED as defined by claims 1-12,
- b) an OLED display device as defined by claims 13 & 14.

You will need to amend your claims, so that they relate to only one invention or inventive concept. You will also need to make consequential amendments to the description. You may wish to consider filing a divisional application. Any such application should normally be filed no later than 3 months before the expiry of the period for putting the present application in order.

### **Scope of search**

2. In accordance with Section 17(6), only the first of these inventions has been searched. The other invention can be searched if you wish. In this case you will have to file a further Form 9/77.

### **What this report covers**

3. I have not been able to consider the novelty or obviousness of the unsearched invention.

### **Novelty (section 1(1)(a))**

4. The invention as defined in claim 1 is not new because it has already been disclosed in each of the following documents:

EP 0278757 A2 (EASTMAN)  
Thin Solid Films vol. 410, May 2002 (Switzerland), Liang-Sun Hung and J. Madathil,  
"Radiation damage and transmission enhancement in surface-emitting organic light-emitting diodes.



INVESTOR IN PEOPLE

Your ref :  
Application No : GB0401613.5

Date of report: 15 July 2004  
Page 2 / 2

[Examination Report contd.]

5. The EASTMAN document discloses an OLED having a transparent cathode (see fig. 3 and page 4 lines 40-41). The passage on page 14 lines 52-53 states that the electrode layers may be fabricated of thicknesses such that they can act as interference filters. The Thin Solid Films document discloses a transparent cathode comprising a layer of ITO which improves the transmission characteristics of the cathode. The improvement is attributed to optical interference effects caused by the ITO layer (see section 4 lines 8-12). Thus claim 1 is anticipated by both documents.

#### **Inventive step (section 1(1)(b))**

6. The invention as defined in claims 6 & 12 is obvious in view of what has already been disclosed in the above documents. These claims describe well known features which would be obvious to the relevant skilled worker in light of the disclosures of the cited documents.

#### **Clarity (section 14(5)(b))**

7. Claim 2 requires clarification since it is unclear whether or not the first and third layers must have different respective refractive indices.

8. The intended scope of "substantially" is unclear in claims 5 & 6. The scope of "approximately an odd integral number" is similarly unclear in claim 13.

9. It is unclear whether the scope of claim 8 is limited to zinc selenide and gallium nitride, or whether this claim is intended to cover the use of any wide bandgap semiconductor. A similar issue arises regarding claim 9.